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### OSTEOARTHRITIS DUE TO INSULIN GROWTH FACTOR-I EXCESS IN LONG-TERM CURED ACROMEGALY IS CHARACTERIZED BY OSTEOPHYTES WITHOUT JOINT-SPACE NARROWING: A COMPARISON WITH PRIMARY POLYARTICULAR OSTEOARTHRITIS

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**Purpose:** Earlier we demonstrated that radiographic osteoarthritis (OA) in acromegaly patients with long-term cured disease is associated with pre-treatment insulin growth factor I (IGF-I) levels. To gain insight in the pathophysiological process of growth hormone (GH) and IGF-I mediated OA, we compared the distribution of osteophytes (OP) and joint space narrowing (JSN) in hips and knees from acromegaly patients and patients with primary OA.

**Methods:** We compared 84 patients with controlled acromegaly for a mean of 14.0 years with 189 patients with primary familial OA at multiple sites from the GARP (Genetics, ARtrosis and Progression) study. Hips and knees with a Kellgren-Lawrence (KL) score  $\geq 1$  were used for analysis. On standardized radiographs OP and JSN were graded 0-3 in the hips and medial and lateral tibiofemoral joints by consensus opinion of two experienced readers using the OARSI atlas. Disability was assessed with the function subscale of the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC). Logistic regression analysis was performed to compare radiographic OA features between the two patient groups, with adjustments for age, sex, BMI and intra-patient effect. Linear regression analysis adjusting for age, sex and BMI, was used for comparison of disability between acromegaly and primary OA and for evaluation of the association of disability with OP and JSN.

**Results:** A total of 80 (48%) and 129 (34%) hips in respectively 42 acromegaly and 91 primary OA patients were compared. For the knees the numbers were 128 (76%) and 237 (63%) in 72 acromegaly and 138 primary OA patients, respectively. JSN was demonstrated in 17% of the acromegalic versus 54% of the primary OA hips (odds ratio (OR) (95% CI) 0.3 (0.1-0.7)), whereas OP were found in 89% and 60% (OR (95% CI) 4.7 (2.5-7.8)), respectively. JSN of the medial knee was less prevalent in acromegaly compared with primary OA (28% vs. 37% (OR (95% CI) 0.5 (0.3-1.2))). In the medial knee femoral and tibial OP were more prevalent in acromegaly compared to primary OA (OR (95% CI) 1.9 (1.3-3.8) and 3.8 (2.4-6.3), respectively). JSN of the lateral knee was equally prevalent in acromegaly and primary OA. Femoral and tibial OP in the lateral compartment were more prevalent in acromegaly compared with primary OA (OR (95% CI) 4.1 (2.7-7.8), and 9.9 (5.7-17.8), respectively). JSN without OP at joint level was statistically less prevalent in acromegaly than in primary OA. On the other hand, OP without JSN was statistically more prevalent in acromegaly than in primary OA. Acromegaly patients with OA had significantly less self-reported disability than patients with primary OA ( $p < 0.001$ ). Self-reported disability was associated with JSN rather than with OP.

**Conclusions:** OA due to GH oversecretion results in osteophytosis and to lesser extent in JSN, which can be observed many

years after treatment. This observation not only suggests that the GH-IGF-I system may protect against cartilage loss, but that it is also involved in bone formation resulting in osteophytosis.

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### COMPARISON OF THE PSYCHOMETRIC PROPERTIES OF THE OARSI-OMERACT VS WOMAC PAIN AND FUNCTION QUESTIONNAIRES IN HIP AND KNEE OSTEOARTHRITIS

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**Purpose:** To evaluate the 3 mains psychometric properties (*e.g.* reliability external validity and sensitivity to change) of these new OARSI-OMERACT tools in comparison to the WOMAC ones.

**Methods:** *Patients:* hip or knee OA seen in a department of orthopedy. *Data collected:* a) pain using a.1; a numerical rating scale (0-10) (NRS), a.2. the WOMAC pain subscale, a.3; the OARSI-OMERACT pain questionnaire; b) functional impairment using b.1. a 0-10 NRS, b.2. the WOMAC function sub-scale, b.3. the OARSI-OMERACT function questionnaire. *Analysis:* 1) Reliability was assessed in patients seen in the out-patients clinics with data collected during the first (first evaluation) and 2 weeks later in a postal mail (second evaluation) using the intra-class coefficient of correlation (ICC) and the 95% confidence interval (CI). 2) External validity was assessed in patients seen in the in-patients clinics before surgery considered the NRS scale as the gold standard using the Spearman coefficient of correlation. Sensitivity to change was assessed on the changes observed before ranging (total articular replacement) and 12 weeks later using the standardized response mean (SRM:  $\Delta$ change/SD change).

**Results:** Reliability was evaluated in 36 patients (21 hips, age:  $64 \pm 14$  years old, female: 70%), external and sensitivity to change in 110 patients (76 hips, age  $68 \pm 12$  years old, female: 56%).

**Conclusions:** This study suggests that the new OARSI-OMERACT pain and function questionnaires are at least as accurate as the single patient's global assessment of pain/function and/or the WOMAC pain/function subscales.

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### RADIOGRAPHIC SUB-TYPES OF KNEE AND HIP OSTEOARTHRITIS IN THE GENERAL POPULATION: THE FRENCH KHOALA COHORT

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**Purpose:** What are the radiographic sub-types of knee and hip osteoarthritis (OA) in the general population in France?

**Abstract 294** – Table 1. Results of psychometric properties of the different tools assessing pain and function

Domain	Reliability	Baseline values (0-100)	External validity (Spearman)	Changes 12 weeks after surgery	Sensitivity to change
Number of patients	36	110	109	80	80
OARSI-OMERACT pain	0.709	45.2 $\pm$ 17.5	0.401 ( $p=0.0004$ )	-25.7 $\pm$ 21.4	-1.201
WOMAC pain	0.879	50.5 $\pm$ 15.5	0.380 ( $p=0.0008$ )	-27.9 $\pm$ 18.4	-1.516
NRS pain	0.582	60.4 $\pm$ 18.2		-38.4 $\pm$ 24.8	-1.548
OARSI-OMERACT function	0.784	55.2 $\pm$ 15.2	0.532 ( $p<0.0001$ )	-24.4 $\pm$ 17.4	-1.402
WOMAC function	0.862	59.0 $\pm$ 14.1	0.503 ( $p<0.0001$ )	-27.0 $\pm$ 17.3	-1.561
NRS function	0.675	69.0 $\pm$ 16.8		-41.5 $\pm$ 25.8	-1.609